The Effects of Culture and Structure on Strategic Flexibility During Business Model Innovation

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ABSTRACT

Large firms strive for strategic flexibility to respond rapidly to change. Using a global, multi-industry dataset of structured interviews with CEOs of 556 firms including 107 business model innovators, this study reveals senior management perceptions of the antecedents of strategic flexibility. The positive role of creative culture is confirmed, but structural change is further disaggregated into efforts that either focus managerial attention on core activities or reconfigure existing activities. CEOs perceive that structural flexibility requires structural simplification while retaining control of non-core functions. The implications for theories of organizational design and dynamic capabilities are discussed.

KEYWORDS: business model innovation, capabilities, CEO, global, strategic flexibility, structure

INTRODUCTION

Organizations aspire to achieve strategic flexibility, most often defined as the ability to identify major changes in the external environment, quickly commit resources to new courses of action, and swiftly halt or reverse erroneous resource deployments (Sanchez, 1995; Shimizu & Hitt, 2004; Sull, 2009; Uhlenbruck, 2003; Worren, Moore, & Cardona, 2002). Senior executives direct their own and others' attention to exogenous change that affects competitive positioning (Ocasio, 1997); consequently, they adjust organizational characteristics to ensure the firm's continued success (Davis, Eisenhardt, & Bingham, 2009; Glick, Huber, Miller, Doty, & Sutcliffe, 1990). Since rapid adaptation improves performance in complex and dynamic environments (Nadkarni & Narayanani, 2007), it is important to examine what CEOs perceive as enabling strategic flexibility in large firms.

Organizational structures and flexible capabilities are important factors in a firm's ability to respond quickly to exogenous change. Theories linking strategic flexibility to either structural modularity or dynamic capabilities, however, have evolved independently from different scholarly traditions. Both perspectives associate responsiveness with flexibility of organizational systems, but attribute these effects to different mechanisms. In the capabilities-based framework, managerial and resource flexibility enable rapid reallocation of assets and processes (Hayes & Pisano, 1994; Zhou & Wu, 2010). Firm-level flexibility, then, is derived from the flexibility of the firm's underlying resources. Industry-specific studies find that managerial attention, asset and network flexibility increase the firm's ability to respond rapidly and effectively to change (Filatotchev, 2003; Matusik & Hill, 1998).

Studies on organizational design, however, attribute flexibility to structures that facilitate managerial focus and control (Ethiraj, Levinthal, & Roy, 2008; Lee & Makhija, 2009; Puranam, Singh, & Zollo, 2006; Sanchez & Mahoney, 1996). Here, firm-level

flexibility is derived from minimizing coordination costs of adaptation. Structural theories of flexibility have been supported by simulation (Siggelkow & Levinthal, 2003) and models of adaptation (Brouthers, 2008), but focus primarily on modularization that reconfigures the organization into loosely-coupled sets of tightly-coupled activities (Sanchez et al., 1996; Worren et al., 2002).

Despite extensive study, significant gaps exist in our understanding of strategic flexibility. First, it is unclear whether strategic flexibility outcomes are better predicted by capabilities-based or structures-based factors or both. Second, process models of flexibility have focused on modular structures and fungibility of assets, and not on strategic factors (Filatotchev, 2003; Lakshman, 2007; Lavie, 2006; Lee et al., 2009; Zahra, Hayton, Neubaum, Dibrell, & Craig, 2008). By examining strategic flexibility in the context of managerial cognition, this study addresses a gap in the literature by considering flexibility as a function of executive attention and decision-making. In addition, as the CEO is ultimately responsible for firm strategy, the study provides insight on change initiatives associated with organization-wide innovation. Third, although prior studies have generated interesting and useful results from specific industries (Nadkarni & Herrmann, 2010) or geographies (Nadkarni et al., 2007), there has yet to be a large-scale study that addresses antecedents of strategic flexibility on a multi-sector and global basis. Finally, studies of strategic flexibility have not addressed these issues using an innovation lens. We focus on firms enacting organizational innovation to address new opportunities to ask the following: *How do culture and structure affect strategic flexibility during business model innovation?*

This study analyzes data from in-depth interviews of more than 550 CEOs of companies around the world. Large, globally competitive firms address constant change with systematic, organization-wide innovation efforts that must balance constrained managerial attention against the risk of competency traps (Johnson, Christensen, & Kagermann, 2008).

The role of managerial attention is critical as CEOs balance the search for new opportunities against the costs of coordination and control. We report the firm characteristics and change processes that CEOs associate with strategic flexibility when firms engage in business model innovation.

Our results extend and clarify prior research, inform an important area of managerial practice on a global scale, and present opportunities for future research. First, we identify the key drivers of business model innovation as well as the structural change processes implemented by business model innovators. Second, we assess CEO perceptions of structural and cultural antecedents of strategic flexibility. We find that although structural simplification is linked to strategic flexibility during business model innovation, the relationship is more nuanced than previously understood. Decentralizing decision-making via delegation is positively associated with strategic flexibility, but consolidating to core functions is not. At the same time, reliance on partners is negatively associated with strategic flexibility. Finally, a creative organizational culture is consistently associated with outcomes of strategic flexibility. These results extend prior findings on strategic flexibility and business model innovation to a global, multi-sector context.

THEORY

Early studies of strategic flexibility often relied on observations of implemented organizational change, such as transitioning from one industry to another (Harrigan, 1980). Measuring strategic options *ex post* only distinguishes between flexible firms that adapt and inflexible firms that fail. Although the focus on observed adaptation to external change remains prevalent (Hitt, 1998; Sanchez et al., 1996; Shimizu et al., 2004; Verdu-Jover, Llorens-Montes, & Garcia-Morales, 2006), broader interpretations of strategic flexibility have incorporated responsiveness to boundary-spanning and internal pressures (Bierly &

Chakrabarti, 1996; Young-Ybarra & Wiersema, 1999) and a proactive, rather than reactive, change perspective (Lawson, 2001).

Flexibility as capability

Changing the observational basis from *ex post* implementation to *ex ante* agility reframes strategic flexibility as a capability, and shifts the discussion from achieved outcomes to the strategic opportunity itself. It also facilitates the identification and assessment of organizational characteristics and managerial decisions associated with flexibility (Hitt, 1998; Sanchez et al., 1996). In this context, the firm's portfolio of resources and strategic positioning determine the firm's flexibility. Although some studies of flexibility rely on measures of slack and fungible resources (Anderson, 2000; George, 2005), these do not account for managerial attention required to exploit fungible assets. Further, heterogeneous risk-reward preferences and knowledge sets may yield distinct flexibility profiles among similarly-resourced firms (Chang, 1998; Evans, 1991). Consequently, we refer to strategic flexibility as the *ex ante* capability resident in the firm to rapidly reallocate and reconfigure resources, processes, and structures in response to exogenous change (Eisenhardt & Martin, 2000; Sanchez, 1995).

Business model innovation

The role of strategic flexibility is of particular interest in the context of organizational innovation to pursue new opportunities. Business model innovation is a recently-identified type of organizational innovation in which firms identify and adopt novel opportunity portfolios (Teece, 2010). Despite, or perhaps due to the breadth of the literature on business models, definitions for the construct have not converged to consistent use (George & Bock, 2011). Business models have been equated to revenues models (Afuah, 2003), boundary-spanning transactive structures (Amit & Zott, 2001), organization-encompassing value

creation systems (Osterwalder, Pigneur, & Tucci, 2005), profiles of organizational expectations (Downing, 2005), post hoc narratives of success (Magretta, 2002), and routinized activity sets (Winter & Szulanski, 2001). Recent studies, however, reframe the business model within a cognitive perspective as a design or representation of organizational structures (Baden-Fuller & Morgan, 2010). There are three advantages to this reconceptualization. First, a cognitive perspective emphasizes managerial interpretation of business functionality. Second, it addresses business model innovation within an opportunity-centric perspective more clearly distinguished from organizational strategy (Teece, 2010). Finally, it provides a foundation for integrating prior research based on consistency in managerial perceptions of organizational value-creating structures (George et al., 2011).

Unlike product or process innovation processes that function synergistically with firm strategy (Burgelman, 1983), business model innovation is associated with reconfiguring organizational design to pursue new-to-the-firm opportunities (George et al., 2011). Managers change organizational structures to initiate or reflect strategic change (Hall & Saias, 1980) and address novel opportunities (Gulati & Puranam, 2009). In the context of adaptive response, managers are limited by the scope of their functional control and access to resources, both of which are directly linked to attention (Ocasio, 1997). This suggests a complex relationship between control and attention in encouraging explorative and adaptive behavior. Therefore, we aim to examine the changes associated with business model innovation and their impact on achieving strategic flexibility. Specifically, we argue that outcomes of strategic flexibility are associated with (1) creative culture that reduces resistance to change, and (2) reduction in structural complexity that facilitates attention to new opportunities.

Creative culture

Culture is a critical aspect of the firm's informal structure (Barnard, 1938). Extensive research demonstrates that work climate and organizational culture influence innovation outcomes (Abbey & Dickson, 1983; Teece, 1996; Tellis, Prabhu, & Chandy, 2009). A creative organizational culture facilitates innovative solutions to competitive threats (Amabile & Khaire, 2008) especially as environmental turbulence increases (Goodstein, Boeker, & Stephan, 1996). Positive characteristics of organizational culture represent potentially important capabilities associated with strategic flexibility (Fiol, 1991; Nadkarni et al., 2007; Plambeck & Weber, 2009). But few studies have considered how intangible resources such as creativity, leadership, and cognitive maps enable flexibility during organizational innovation.

Gulati and Puranam (Gulati et al., 2009) argued that a strong informal organization stabilizes or complements formal organization during re-organization. Culture includes the value systems that embrace or resist changes to organizational identity (Dutton, Dukerich, & Harquail, 1994). Culture as the "essence of informal organization" (Teece, 1996) holds particular relevance during frame-breaking or radical organizational change. Entrenched routines and embedded views of strategic orientation increase resistance to radical change (Fosfuri & Ronde, 2009; Fox-Wolfgramm, Boal, & Hunt, 1998). Since business model innovation may completely realign functions and activities, firms with a culture that encourages creativity are more likely to embrace change in desired outcomes, intermediary processes, and resource configurations. We expect that an innovation-oriented, creative culture improves strategic flexibility during business model innovation by ensuring that feedback from structural change outcomes is not suppressed by procedures, identity resistance or political coalitions. Therefore, we hypothesize that:

> *Hypothesis 1: Creative culture is positively related to strategic flexibility when firms engage in business model innovation.*

Structural simplification

Linking structure to strategic outcomes is well-established (Chandler, 1962; Davis et al., 2009), however, the relationship between structural change and responsiveness during business model innovation remain unexplored. For our purposes organizational structures refer to the macro-level functional systems employed by the firm to organize value creating and capturing activities. Regardless of the size and business unit scope of the entity, structural change may be categorized by whether structures are simplified, expanded, or reconfigured. One possibility is that internally-focused firms reconfigure activities to address new opportunities with core products or managerial capabilities (Prahalad & Hamel, 1990). Alternately, firms may adapt organizational design to enhance efficiency of internal processes and innovation (Puranam et al., 2006; Rothaermel, Hitt, & Jobe, 2006), creating slack that may be directed to novel exploration and adaptation (Lawson, 2001). Although changes in formal structure that increase focus or improve efficiency may overlap, we disaggregate the underlying drivers to distinguish between types of internal structural changes.

Dismantling internal organizational structures and barriers may reduce structural complexity and its attendant internal coordination costs. In line with prior research, we refer to structural simplification as processes that decrease the number of functions or business units overseen by management via consolidation, elimination, or delegation of functions to other entities. Structural design changes that reduce coordination costs and enhance cooperation among organizational units may increase the firm's ability to balance exploration and exploitation (Mom, van den Bosch, & Volberda, 2009). Structural integration is necessary when large firms acquire smaller firms and there is a high degree of mutual dependence (Puranam, Singh, & Chaudhuri, 2009). Despite prior research suggesting that reductions in design associated with spin-offs are detrimental to parent firms, recent evidence suggests that the impact on the parent firm may depend, in part, on the appropriability regime

and even the success of the spin-off (McKendrick, Wade, & Jaffee, 2009). Further, outsourcing non-core functions can focus managerial attention on solving problems and identifying opportunities arising from changing environments (Ocasio, 1997; Rothaermel et al., 2006). Therefore, we expect that formal organization changes that reduce internal design complexity will enhance managerial attention to exogenous change and augment strategic flexibility.

Hypothesis 2a: Simplifying firm structures is positively related to strategic flexibility when firms engage in business model innovation.

Reducing structural complexity, however, could drive renewed focus on increasing organizational efficiency rather than adaptation. When the firm seeks to develop novel portfolios of opportunities, the benefits of ambidextrous management could be lost via internally-focused reconfiguration of activities. For the purpose of this study, we define reconfiguration as the process of re-aligning existing activities without significant change to the number or scope of functions directly managed by the entity. Business process reengineering, for example, recommended reconfiguration and simplification of resources and routines to achieve dramatic gains in efficiency. This represents renewed competitive focus in which the organization seeks to improve competitive position within the existing opportunity set. Whereas competitive focus could improve operational performance at the division, unit, or firm-level (Huckman & Zinner, 2008), it is unlikely to yield flexibility in changing tasks, products, or markets (Kekre & Srinivasan, 1990). Increasing competitive focus through reconfiguration of existing activities is therefore unlikely to improve strategic flexibility. In a study of 225 firms from 14 industries, Nadkarni and Narayanan (2007) found that managerial cognitive maps that emphasized strategic focus had lower strategic flexibility in high-clockspeed industries. If business model innovators are responding to macro-level changes, radical threats, or industry turbulence, strategic focus would only hinder strategic flexibility. We therefore posit that:

Hypothesis 2b: Reconfiguring activities is negatively related to strategic flexibility when firms engage in business model innovation.

Inter-organizational dependence

An important attribute of formal organization is the firm's connectedness to other organizations. Collaboration with external partners represents an important tool for exploration as well as a source of coordination costs. When firms operate in turbulent environments, access to knowledge potentially improves the accuracy of managers' strategic decisions (Combs, 1999; Uzzi, 1996). In fact, exogenous uncertainty tends to increase collaborative activities with similar and familiar partners (Podolny, 1994) and network and collaboration effects generally improve innovation and performance (Gulati & Sytch, 2007; Stuart, 2000). This knowledge-based framework suggests that access to options via alliances improves strategic flexibility (Heimeriks, 2007; Lee & Park, 2008).

Nevertheless, structural design changes during business model innovation present a unique context for collaboration. Exploration in turbulent environments exposes the firm to unfamiliar and unforeseeable elements. Under these conditions, the elements of cooperative partnering that create mutual value, such as trust, transparency, and governance mechanisms (Nooteboom, 1996) induce unpredictable or unknowable costs. This reduces the expected benefit of collaboration because partner-driven asset investment and exploiting complementarities is limited by uncertainty and lack of market knowledge specificity (De Luca & Atuahene-Gima, 2007; Dyer & Singh, 1998). The complex alignment of managerial goals associated with partner dependence may increase coordination problems (Harrigan & Newman, 1990), and result in survival-based learning (Denrell, 2003) that reduces flexibility. Therefore, we expect that:

Hypothesis 3: Inter-organizational dependence is negatively related to strategic flexibility when firms engage in business model innovation.

DATA AND METHOD

To test these hypotheses, we analyzed data from the IBM Global CEO Survey. This 2006 survey administered semi-structured interviews to 762 CEOs of primarily large, multinational organizations representing a wide array of industries and countries. After excluding public sector organizations and records with missing data, the study sample included 556 organizations from diverse sectors including communications, 15%; financial services, 23%; distribution or other services, 32%; and manufacturers, 29%. The sample covers every major geographic area: the Americas, 25%; Europe, 36%; Asia and Australia, 39%. The dataset covers a range of firm sizes, but oversamples large and very large firms compared to the total population of for-profit firms worldwide. More than 50% of firms have more than 5,000 employees; approximately 20% of firms have more than 25,000 employees. The business model innovator sample includes the 107 firms where CEOs identified business model innovation as the primary type of innovation effort.

Survey design and administration

The survey was rigorously designed and administered to report on organizational innovation and business-technology integration (Giesen, Berman, Bell, & Blitz, 2007). The survey was designed by professional researchers and incorporated mechanisms to ensure data fidelity. Multiple question types reduce common item type biasing effects. The inclusion of open-ended questions facilitates the identification of processes and outcomes. This includes the change vehicles associated with innovation as well as organizational outcomes. The survey was administered by two interviewers, thereby enabling simultaneous administration and coding. The combination of open-ended questions with dual-interviewers facilitated discriminatory coding. Strategic flexibility, for example, was distinguished from focus/specialization, faster time to market, access to skills/product, access to

markets/customers, and moving from fixed to variable costs. Interviewers received extensive guidelines and training as well as centralized support throughout. Data were uploaded to a central location for processing and analysis. Access to detailed interviews with 556 CEOs of large firms is an exceptional resource. The survey provides a rich and rigorously developed dataset to test our hypotheses and provides appropriate variables to control for other forms of innovation, organizational attributes, and environmental characteristics.

Two stage analysis

The survey segregated firms by their primary innovation effort. Respondents assessed the relative importance of innovation activities at their organization by distributing 100 points among three innovation types: product/market, business model, and process/operational. Participants responded to additional questions with reference to their innovation focus. Because the dataset segregates respondents by primary innovation type, a two-stage Heckman probit model is appropriate (Heckman, 1979; Shaver, 1998). First, a selection model identifies the drivers that determine which firms select to be business model innovators. Second, the effects of structure and culture on strategic flexibility for business model innovators are assessed in the main model. Because there are two stages in the analysis, there are two regression equations and thus two sets of dependent and independent variables.

Selection model

The selection stage assesses the drivers of business model innovation. Drivers include exogenous forces, change difficulty, leadership and prior innovation success. The dependent variable indicates whether the firm self-identified as a business model innovator. The probit model in the first stage regresses this binary variable on the drivers of interest and control variables for firm characteristics.

Business model innovator. This is a binary indicator variable (0/1) of whether the firm indicated that its primary innovation focus was on business model innovation. Because the dependent variable is based on coding of open-ended responses, it is important to assess whether participants had a consistent understanding of the constructs. Business model innovation has not been clearly defined in prior studies, but use in practice is relatively consistent (Baden-Fuller et al., 2010; George et al., 2011; Teece, 2010). This consistency is confirmed via examination of some of the interview notes of CEO remarks. For example business model innovation is not perceived as a better way to address the current market: "[The] market cannot be changed. We need [a] new business model to survive." And it is not simply product innovation either: "We are at the critical point. After 30 years of our efforts, use of [our product] is now very practical. In this sense, we are at the point where we should transform our business model itself."

Although it may begin with, or include adaptation of market-facing activities (Amit et al., 2001), CEOs that identify business model innovation as the primary effort clearly intend more significant change: "[Our industry] is crying out for a new sales/marketing model that is more efficient. 'Armies of sales representatives' are not the best – [We] are on the edge of trying something very different… [as well as] more product sharing with other companies." Business model innovation is understood to represent a significant and possibly discontinuous change: "Everything starts when breaking with and deny[ing] the status quo." CEOs perceive that these change efforts are system-wide and comprehensive: "Our business model has to be changed to be competitive - completely. We need all new processes, responsibilities and accountability." CEOs see business model innovation as shorthand for change across multiple dimensions: "Business model is (sic) the core of the firm's growth strategy - this includes new distribution models, new partnerships, new revenue models, etc."

The common theme to business model innovation in practice addresses new

opportunities: “If the [new] opportunity has to be exploited in an exponential fashion, the only way to do it is by introducing fundamentally different business models. Product innovation will continue to remain important, but at some level, this is driven top-down. The potential to achieve exponential growth through this route is limited in the [new sector].” Previously examined consistency in perceptions of business models and business model innovation in practice are confirmed in this data. CEOs see business models as high-level representations of the nature of the firm’s business. Business model innovation is perceived as a more fundamental rethinking of the firm’s entire value proposition in the context of new opportunities.

The independent variables in the selection model include factors and characteristics that influence firms’ decisions to focus on business model innovation rather than process or product innovation.

Discontinuous change. While firms often enact continuous or incremental change (Brown & Eisenhardt, 1997), discontinuous change associated with business model innovation represents one possible endogenous response to exogenous disruptions (Romanelli & Tushman, 1994). We control for perceived need of discontinuous change by a five-point Likert response to a question on the level of change needed to implement key elements of innovation strategy, where 1 is “no change” and 5 is “extensive change.”

Prior success with change effort. A possible driver of organizational innovation is prior success with managing fundamental change. We control for this type of learning effect with a question on the success of managing fundamental change in the past with a five-point Likert scale, where 1 is “unsuccessful” and 5 is “very successful.”

CEO formally responsible for business model innovation. Research has demonstrated the links between senior leadership involvement and innovation adoption (Kimberly &

Evanisko, 1981) and the role of managerial leadership in structural changes associated with strategic flexibility (Goodstein et al., 1996). To control for the CEO's direct oversight, we use a binary indicator variable (0/1) of whether or not the CEO was formally responsible for business model innovation efforts.

Product / Market innovator: Although little research has considered resource and activity trade-offs associated with simultaneous innovation initiatives, product or process innovation activities could influence business model innovation efforts. To control for this effect, we created a variable measuring the firm's proportion of non-business model innovation effort associated with product/market innovation. The measure varies from 0, representing no effort directed towards products, services, and market innovation, to 1 representing no effort directed towards operational innovation.

The comprehensive nature of the survey facilitated controlling for effects established in prior research. The control variables in the selection model are noted here:

Survey source. The survey was designed by IBM's Institute for Business Value and was administered by both IBM representatives as well as representatives of an independent research organization, the Economist Intelligence Unit or EIU. To account for any bias due to survey administrator affiliation, we included a dummy variable if the survey was administered to a given respondent by an EIU representative.

Sector. The respondents were drawn from a variety of industrial sectors presenting potentially distinct exogenous drivers of change and varying industry life cycle issues associated with innovation efforts. We control for industry sector by including a set of binary variables.

External forces. The survey contained binary variables related to external forces likely to impact respondents' organizations in the next two years. This enabled us to control for

specific exogenous drivers including market forces, globalization, macroeconomic forces, geopolitical issues, and environmental issues.

Organization size. Organization size may affect innovation efforts (Damanpour, 1992). We define size by the number of employees. Due to survey confidentiality requirements, we received aggregations of size in six categories of 5,000 employee increments: firms with fewer than 5,000 employees were assigned a value of 1, and those with greater than 25,000 were assigned a value of 6.

Global firm. Multinational firms span geographic and sector boundaries potentially accessing opportunities not available to organizations that operate solely within a national or regional market. We constructed a binary (0/1) variable if the firm had a multinational reach.

EU firm. Organizations with headquarters within the European Union (EU) operate in a common market but with socio-culturally diverse facilities. The unusual institutional nature of nationally-disparate but economically-linked states creates the potential for unique structural and cultural features that could affect innovation and change. We included a binary (0/1) variable if the firm's headquarters is inside the EU.

Main model

Our study considers the link between organizational changes and strategic flexibility during business model innovation. The second stage estimates strategic flexibility based on creative culture, structural change types, partner dependence, and control variables for the 107 business model innovators. The use of the Heckman model helps address selection bias by including data from all 556 observations in the full model specification. This approach controls for potential endogeneity effects associated with the firm's choice of innovation efforts.

Strategic Flexibility. A binary variable (0/1) captures CEO perception of whether the

organization achieved strategic flexibility through its business model innovation efforts. The measure was based on open-ended response by the CEO to identify benefits of innovation efforts. Because of the nature of the data, it is important to confirm that the construct was understood and utilized by respondents consistently.

Review of the responses to open-ended questions in the survey confirms both consistency and specificity of CEO perceptions of strategic flexibility. First, CEOs relate strategic flexibility to a competitive context of product and service positioning, often with reference to the firm's extant resource base: "…There is tremendous strategic flexibility in introducing new products and services to ride on the existing infrastructure." Strategic flexibility is an outcome related to but not strictly equivalent to capturing opportunities. It is the continued capability to address those opportunities: "The firm's solutions for the construction industry, the healthcare sector, the food and nutrition business have all been driven by this integrated approach. Future opportunities will also be captured in the same manner. The implications for revenue growth and strategic flexibility are enormous." CEOs distinguish between levels of responsiveness by contrasting "Flexibility in corporate strategy and internal systems". Strategic flexibility is associated with responsiveness: "It is relatively easier for [the firm] to scale up its operations because of the high extent of technology absorption. This provides strategic speed and flexibility." But CEOs distinguish between strategic flexibility and firm activity velocity in general, as shown in these comments: "Operations [are] not yet getting secondary benefits - speed and strategic flexibility to come" and "Overall speed, strategic flexibility - by next year will increase." The interview comments validate that CEO understanding of strategic flexibility was distinct from related constructs.

Creative culture. Prior studies have linked elements of informal organizational structure to strategic flexibility in which creativity serves as a complementary capability to

strategic planning and selection (Tellis et al., 2009). A creative environment has been closely linked to innovation generation and adoption. Respondents were asked whether a climate for creativity existed within their organizations on a five-point Likert scale, ranging from "limited" to "very strong."

Internal structural changes. Formal structural change is a direct mode of adaptation available to managers enacting business model innovation. The survey instrument included indicators for structural change vehicles, including spin-offs, major project-based contracting, major strategic partnerships, offshore and onshore outsourcing, organizational structural changes, shared services, and use of third-party operating utilities. Binary indicators (0/1) for each vehicle were coded based on open-ended response to identify structural initiatives adopted as part of the business model innovation effort.

Inter-organizational dependence. Dependence upon partners increases the time and coordination cost of innovation, representing a source of organizational inflexibility (Anthony, 2007; Hoetker & Mellewigt, 2009; Stuart, 2000). The survey instrument included a question on the importance on collaboration and partnering with a five-point Likert scale. The minimum value on the scale identified partnering as "of no importance" and the maximum to "of critical importance".

In addition to controlling for CEO responsibility, the selection model also controlled for technological integration and utilized a latent marker variable for common method variance testing.

Technological integration. Given IBM's interest in information technology adoption, the non-random sample may associate innovation with efforts to improve integration of technology with business processes. We control for the importance of technology integration and business processes using a five-point Likert scale variable of the importance of

technological integration with business processes where 1 is “of no importance” and 5 is “of critical importance.”

Latent marker variable. Common method variance may be present in single source data. We utilized a latent marker variable to test for the presence of common method variance (Richardson, Simmering, & Sturman, 2009; Williams, Hartman, & Cavazotte, 2010). The results of the common method variance tests are discussed in detail in the next section.

RESULTS

First, we examine the structural change processes associated with business model innovation. Second, we review the results of the two-stage regression model and identify which hypotheses were supported. Third, we assess the potential for common method variance in the data and report the results of tests for its detection.

Structural changes enacted during business model innovation

To create a manageable set of organizational change modes for both modeling and interpretation, we explored the dimensionality of eight binary indicators (0/1) using a principal component factor analysis. The analysis revealed three factors (Table 1), labeled as *delegation*, *consolidation*, and *reconfiguration* of organizational activities. First, organizations enacting business model innovation may ‘delegate’ business functions by using third-party operating facilities, establishing shared services agreements, and contracting-out major projects to externalize peripheral functions while maintaining control and access to innovation. Delegation contracts the formal structure of the organization by utilizing boundary-spanning transactions as an alternate lever of control.

Second, organizations may ‘consolidate’ activities by spinning-out or outsourcing activities as well as limiting major strategic partnerships with others. This process eliminates non-core activities and focuses on internal capability development in perceived areas of high

value. Third, ‘reconfiguration’ alters structures without divestitures, outsourcing, or uptake of novel capabilities, somewhat akin to shuffling and re-dealing a deck of cards without reducing the set. Reconfiguration relies on improved use of technologies or decision-making efficiencies to exploit opportunities and generate advantage.

Whereas reconfiguration matches hypothesis 2b, both delegation and consolidation relate to hypothesis 2a as mechanisms to focus managerial attention by reducing structural design complexity. Although a perfect match between the factor analysis and hypotheses might have been preferable from an *ex ante* theoretical perspective, the distinction between delegation and consolidation enables a more fine-grained assessment of the effects of reducing structural complexity.

INSERT TABLE 1 ABOUT HERE

The effects of culture and structure on strategic flexibility

The analysis utilizes two model stages with different numbers of observations. Table 2 reports descriptive statistics for the dependent and independent variables for the first and second stage models separately. The correlations report no particularly strong associations among the variables. Table 3 reports the results of the Heckman probit regression model. Column Model 1 shows the specific output of the first-stage selection model. Columns Model 2 through 4 report the results of the two-stage model. Model 2 presents the results for the two-stage analysis applying only the control variables. Model 3 reports the full model that includes all theory variables to test the hypotheses. Model 4 reports the hypothesized model including the latent marker variable to test for common method variance.

INSERT TABLES 2 AND 3 ABOUT HERE

The results from the first-stage selection model identify drivers of business model

innovation (Model 1). The analysis reveals that business model innovation is inversely related to product/market innovation activities (b = -.90, p<.01). There is no significant relationship between prior change success and business model innovation efforts, suggesting that learning effects commonly associated with product and process innovation may not be as relevant to business model innovation efforts. Executive leadership is associated with increased business model innovation (b = .35, p<.01), supporting the broader literature on the role of leadership in fundamental organizational innovation. Interestingly, global and EU firms are less likely to initiate business model innovation (b= -.37, p<.05; b= - .37, p<.01 respectively).

For the theory variables of interest and to test our hypotheses, we refer to Model 3. CEOs perceive that organizations with a creative climate are more likely to achieve strategic flexibility during business model innovation efforts (b=.50, p<.001). Extending previous findings, we find that creative culture is positively associated with strategic flexibility across geographies and sectors. Hypothesis 1 is supported.

Internal structural change to reduce organization design complexity is disaggregated to reflect two underlying factors: delegation and consolidation. The results of the regression distinguish between the two structural change processes. CEOs perceive that delegation is positively associated with strategic flexibility (b= .30, p<.05). Consolidation, however, does not have a statistically significant relationship with flexibility. Finally, internal structural changes that emphasize reconfiguration of existing activities are negatively associated with the likelihood of achieving strategic flexibility (b= -.25, p<.05), consistent with our prediction that reconfiguration does not improve managerial focus. Whereas hypothesis 2a receives only partial support, hypothesis 2b is supported.

Inter-organizational dependence is negatively related to strategic flexibility (b= -.23, p<.05). Although collaboration and network effects are associated with improved

performance, business model innovators with partner dependencies are perceived to achieve lower strategic flexibility. Hypothesis 3 is supported.

Common method variance

The dataset represents quantitative and qualitative information obtained from 556 CEO interviews. The richness of the data is only tempered by the inability to collect longitudinal data necessitated by confidentiality required to elicit candid responses. When data collection of substantive variables relies on a single source, common method variance (CMV) is a relevant concern in establishing unbiased coefficient estimates. CMV is generally defined as "systematic error variance shared among variables measured with and introduced as a function of the same method and/or source" (Richardson et al., 2009). An extensive literature details the potential problem of biased coefficients associated with common method variance (Pace, 2010; Podsakoff, 2003; Richardson et al., 2009), although recent studies suggest that actual bias in statistical outcomes may not be as problematic as previously thought (Lance, Dawson, Birkelbach, & Hoffman, 2010). Next, we elaborate on the characteristics of study design and administration that limit the likelihood of CMV, the creation of a latent marker variable to support CMV detection, and the results of those detection tests. Careful survey design and administration, combined with the results of the most rigorous CMV detection tests strongly suggest 1) that the probability of CMV in the data is low or nonexistent, and 2) that to the extent that unidentifiable CMV is present, associated results bias is also low.

Mitigation of CMV bias

Survey design varied questions types, reducing the potential for CMV by de-linking responses and relying on coding of qualitative responses to open-ended questions less likely to generate consistent biases (Podsakoff, 2003). Survey administration used extensive

mechanisms to reduce CMV potential. First, respondents were CEOs, the most reliable assessors and reporters of organizational information (Simsek, Veiga, & Lubatkin, 2007). Second, the survey provided exceptional levels of legitimacy and confidentiality, reducing the potential for common rater effects such as interviewer bias and social (Dohrenwend, Colombotos, & Dohrenwend, 1968). Third, extensive training and support resources were employed, including a detailed 38-page interview guide with coding instructions. Survey protocol required two interviewers to be present at each interview to separate questioning from coding.

Testing for CMV bias

Despite these precautions, the presence of CMV in the data cannot be summarily ruled out. The Harman one-factor test is a commonly used first step to test for the presence of CMV. If all of the regression variables load onto a single factor, there is presumed to be a higher probability of CMV in the data. Given the two-stage research design, we applied the test to each of the two stages separately. In the model selection stage, 10 factors emerged from the 17 variables, with the largest factor accounting for less than 40% of the total variance. In addition, data for seven of the independent variables in the selection stage were obtained from secondary data, independent of the CEO interview, and are significantly less likely to present common method variance. Factoring the model main stage yielded five factors from the nine variables. Although this result is generally encouraging, the Harman one-factor test does not eliminate the possibility of CMV as the dominant factor accounts for 53% of the total variance.

Confirmatory analysis running the full Heckman regression with the dominant factor from the Harman test shows a significant coefficient ($P>|z| < .05$). The Wald chi-2 score is significantly lower than the full regression model: 4.91 for the one-factor solution compared to 22.26 for the fully-specified model. While common variance in the explanatory variables

may be associated with the dependent variable, the hypothesized model is significantly more predictive than the hypothesized common factor.

In addition, we applied a more sophisticated test by considering that a subset of variables carry common method variance components that could be biasing the results. These tests may be more indicative of CMV when multiple common method factors are at work, rather than a single dominant factor. We assessed confirmatory factor tests in which double-factor combinations of variables are regressed to see if the explanatory power of the model can be attributed to common method variance associated with variable subsets (Simsek et al., 2007). While some of these models generated statistically significant results, the hypothesis that any of these combinations are statistically indistinguishable from the full model is rejected. The two-factor solution combining the structural change indicators into a single factor and all other indicators into the second factor yielded a Wald chi-square of 4.61, while the two-factor solution combining all of the structural indicators (including the structural change indicators, partner dependence, and technology integration) and only culture and CEO responsibility into the other factor generated a Wald chi-square of 5.34. As with the single factor solution, these tests suggest that the majority of variance requires the full model specification. In addition, as none of these tests were significantly more predictive than the one-factor CFA analysis, the probability of multi-factor common method variance is reduced.

Current research on detecting and correcting for common method variances uses marker variables to proxy the underlying source of method variation. The preferred method uses a latent variable generated with underlying marker variables uncorrelated with study variables that also capture the sources of common method bias (Williams et al., 2010). Three indicators in the survey meet these criteria: the establishment of metrics and incentives for innovation, incubation structures to support innovation activities, and idea generation for innovation. All three present low correlations with the substantive variables of interest and all

three would carry common rater and common item method bias, especially bias associated with social desirability (Podsakoff, 2003). Following Williams (2010), a latent marker variable was generated using factor analysis of these three variables. The latent marker variable was incorporated into the full two-stage Heckman probit model. The results, presented as Model 4, are statistically indistinguishable from the fully-specified model 3. The marker variable coefficient, though positive, was neither statistically significant nor the same order of magnitude as the coefficients of the study variables. Of note is that neither the magnitude nor significance of the coefficients of the indicators of interest changed substantively.

The results of these tests, combined with the quality of survey design and administration, suggests that the likelihood of CMV in the data is low. The most important variables in the study, the structural change indicators, are latent variables less subject to CMV (Williams et al., 2010) and based on binary variables. In other words, there is no obvious underlying methodological rationale for biasing associated with common rater effects, which would be the primary concern in reporting interview data. Although the lack of perfectly accurate detection tools prevents common method variance from being ruled out (Richardson et al., 2009), the results of rigorous testing and judgment point towards the accuracy and reliability of the hypothesized model and the statistical results.

DISCUSSION

In this study, we address a narrow, well-defined relationship between business model innovation and a firm's achievement of strategic flexibility. While the practice literature has encouraged managers to expect that organizational design changes enacted during business model innovation are associated with strategic flexibility, our findings suggest a more subtle relationship between design transformation and improved adaptability. CEOs perceive that organizational structure changes that focus attention without giving up control are associated

with flexibility. In addition, the study confirms that a climate for creativity is associated with strategic flexibility, while dispelling the notion that flexibility can be attained through reliance on partners. Taken together, this study makes four contributions to the theory and practice of business model innovation.

Although organizational design and structure are critical features of business model innovation, it is important to understand how such structural changes influence managerial attention and control. We argued that attempts to reduce design complexity will increase flexibility. Delegation increases the probability of achieving strategic flexibility from 6.8% (at one standard deviation below the mean; -1sd) to 12.1% (+1sd). During structural delegation, managers retain control of structural change while delegating responsibility and costs of coordination to third party service providers via outsourcing and shared services. This has a dual effect of reducing structural design complexity and concomitantly increasing managerial attention to evolving competitive environments. By delegating activities through use of third-party facilities and shared services, an organization can maintain some degree of control over processes, information flow, and outputs. This delegation allows the firm to rely on the culled activities while reducing burdens on managerial attention and responding with agility to change.

In contrast to delegation, reconfiguration of existing activities has a negative effect on achieving strategic flexibility. Here, managerial attention is still constrained by non-core process activities that do not disappear during reconfiguration of activity sets. We find that the probability of achieving strategic flexibility drops from 11.5% to 7.4% when reconfiguration increases (-1sd to +1sd). This result is consistent with Nadkarni and Narayanan (2007) who found a negative effect between firms trying to create strategic focus and flexibility. Our results add to this literature by suggesting that reconfiguration at large firms do not necessarily confer the benefits of focused managerial attention during business

model innovation.

Taken together, our factor analysis shows that the eight most common structural change formats used during organizational change reflect commensurate differences in the degree of managerial control exercised and managerial attention or 'bandwidth' available. To achieve strategic flexibility, managers must blend issues of control and attention to ensure flexibility to competitive environmental changes.

CEOs perceive that a creative culture is positively associated with achieving strategic flexibility during business model innovation. A two standard deviation increase in the climate for creativity around the mean changes the probability of achieving strategic flexibility from 5.4% to 13.5%. While managers tend to focus on adaptation of formal structures, a significant element of achieving flexibility stems from creative informal structure. The magnitude of effect is substantial and bolsters claims for the strategic advantage of informal organization characteristics such as innovative culture (Fiol, 1991; Gulati et al., 2009; Teece, 1996; Tellis et al., 2009) in a global, multi-sector context. Having an innovative culture helps avoid employee resistance to organizational identity changes that arise during transformation processes (Dutton et al., 1994).

Finally, our results show that greater inter-organizational dependence in business model innovation (-1sd to +1sd) decreases the probability that firms achieve strategic flexibility from 11.4% to 6.9%. This finding runs counter to prescriptive literature that advocate a greater reliance on partnerships to enact business model innovation. Though our data do not allow us to confirm the underlying causal mechanisms, it is possible that reliance on partners for organizational change increases coordination costs and goal alignment problems. Further research can more clearly delineate the underlying reasons for this negative relationship.

CONCLUSIONS AND FUTURE DIRECTIONS

Structure and culture affect strategic flexibility when firms engage in business model innovation. Some of these relationships follow prior theory, such as the positive role of a creative organizational culture. Other effects, dependent in part on the locus of managerial attention, are more subtle. Teasing out these subtleties represents an important step in better understanding organizational change at large firms competing in an economic environment of ever-increasing complexity. Future research on these relationships could improve theories on organizational innovation and opportunity exploitation at large firms facing unprecedented opportunities and competition for those opportunities.

Organizational design at large firms, previously considered to be the result of rigorous and precise planning, is now understood to be dynamic and emergent. CEOs are urged to maintain high degrees of flexibility to account for uncertainty in markets, products, macroeconomics, and technological change. Managers must both optimize extant operations while preparing those same functions for rapid and sometimes discontinuous change. Developing the capabilities and structures to facilitate this type of multi-talented organization is therefore crucial. Large firms address an expanding landscape of opportunities where exploitation has become more accessible to more firms. Globalization and nearly ubiquitous information technology opens opportunities to a wider variety of entrepreneurs.

Our study suggests that CEO perceptions of the structural processes that confer strategic flexibility have changed since the formulation of theories of corporate competency and process engineering. CEOs of large firms believe that responsiveness to new opportunities requires simplifying structures to reduce managerial attention burdens while simultaneously retaining control of non-core operations. Although the mechanisms have not been fully clarified, the tradeoffs between attention and coordination costs appear relevant. These large firms face difficult choices that balance leveraging market efficiencies with

retaining control of strategic choice and decision-making functions.

Despite the focused nature of this study, the interesting outcomes present a broad foundation for extending theory. Future research could link structural change during business model innovation to objective measures of firm performance. The managerial attention related aspects of organizational innovation and opportunity exploitation at large firms deserve further examination to unravel senior executive motivations and actions associated with significant organizational change. Related research could address how tacit capabilities of senior executives affect the firm's ability to respond to change when the firm pursues new opportunities.

One avenue could be to address whether specific types of innovation effort mediate or moderate the link between organizational structures and strategic flexibility. For example, reconfiguration might be more beneficial with process innovation than business model innovation if improving process efficiency reduces internal managerial attention requirements. An alternate direction could extend prior work on structural antecedents of explore-exploit outcomes (Siggelkow et al., 2003) by assessing characteristics of managerial attention that balance efficient operations and outward-facing opportunity exploration. Could these factors be potentially separated into "operators" and "explorers," dedicated to efficiency and exploration respectively? Or are they best enacted by distributed networks of "sentries" that scan environments while maintaining control of local operations?

The tradeoffs between idiosyncratic costs of partnerships and information access via network effects during fundamental innovation activities deserve additional study. When opportunity sets present disparate value profiles based on firms' distinct resource portfolios, which partnership characteristics determine whether information access or attention best expands opportunity horizons? This question effectively compares theories of resource acquisition with transaction cost economics in the context of organizational structures. A

related direction could examine how partnership or network characteristics affect strategic flexibility outcomes. While we might expect that diverse and dynamic networks would support flexibility, in the context of business model innovation the outcome is less clear. Would access to diverse networks improve distant search capabilities, or burden the organization with complex coordination costs?

This study is not without its limitations. The nature of the firm sample restricts interpretation of results to a specific, but highly interesting population of large, technology-intensive firms worldwide. The data are cross-sectional, thereby limiting our ability to infer causality or temporal effects. Common method variance in the data is possible, though careful study design and administration strongly reduce the likelihood of significant effects, and rigorous testing did not detect the presence of common method bias.

Limitations aside, this is the first, systematic empirical study of CEOs that compares capability and structural drivers of strategic flexibility in the context of business model innovation. Our findings highlight the relevance of both structural changes and flexible capabilities during renewal and re-organization as well as implications for organizational adaptation to environmental change. The roles of control and managerial attention when firms adopt new opportunity sets improves theories of organizational design and capabilities and holds promise for normative theory on the practice of business model innovation.

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Table 1: FACTOR ANALYSIS OF INTERNAL STRUCTURAL CHANGE VEHICLES

	Internal structural changes		
Variable	**Delegation**	**Consolidation**	**Reconfiguration**
Use of third-party operating utility	**0.7339**		
Onshore outsourcing	**0.6990**		0.3190
Shared services	**0.4795**		
Major project-based contracting	**0.4651**		
Offshore outsourcing	0.3078	**0.5022**	-0.3355
Spin-offs		**0.7399**	
Major strategic partnerships		**-0.6314**	-0.3842
Organizational structural changes			**0.8503**
Proportion of variance accounted for	0.20	0.16	0.13
Cumulative proportion	0.20	0.36	0.50

**Note: Only loadings above 0.3 or below -0.3 shown*

TABLE 2: DESCRIPTIVE STATISTICS

First stage variables	N	Mean	SD	Pair-wise correlation														
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Business Models innovator	556	0.19	0.39																
2 Survey source	556	0.24	0.43	-0.13															
3 Distribution sector	556	0.32	0.47	0.01	0.02														
4 Financial services sector	556	0.23	0.42	0.01	-0.10	-0.38													
5 Communications sector	556	0.15	0.36	-0.03	0.03	-0.29	-0.24												
6 Market forces	556	0.73	0.45	0.01	0.10	0.01	-0.12	0.07											
7 Globalization	556	0.34	0.47	0.06	-0.05	0.05	-0.09	-0.22	-0.24										
8 Macroeconomic forces	556	0.25	0.43	0.01	-0.02	0.01	0.01	-0.02	-0.18	-0.10									
9 Geopolitical issues	556	0.07	0.26	0.04	0.05	0.03	-0.04	-0.03	-0.11	-0.07	0.01								
10 Environmental issues	556	0.12	0.33	0.05	0.01	-0.02	-0.18	0.10	-0.03	-0.05	0.02	0.00							
11 Organization size (employees)	556	2.71	1.68	0.02	0.05	-0.03	-0.03	-0.06	-0.03	0.03	0.07	0.06	0.03						
12 Global firm	556	0.40	0.49	-0.08	0.07	-0.02	-0.18	-0.18	-0.10	0.33	-0.06	0.12	0.07	0.30					
13 EU firm	556	0.34	0.47	-0.12	0.01	-0.05	0.01	-0.03	-0.04	0.06	0.08	0.00	0.04	0.14	0.22				
14 Degree of change difficulty	556	3.78	1.08	0.13	-0.23	0.06	-0.11	-0.01	0.01	0.16	-0.08	-0.10	0.02	0.04	0.08	-0.07			
15 CEO responsible for innovation	556	0.32	0.47	0.13	-0.05	0.06	0.09	-0.10	-0.07	0.08	-0.03	0.05	-0.13	-0.13	-0.04	0.04	0.09		
16 Prior success with change effort	556	3.61	0.92	-0.05	-0.02	-0.09	0.07	0.10	-0.04	-0.06	0.06	0.00	0.02	-0.07	-0.08	0.13	-0.20	0.03	
17 Product / Market innovator	556	0.58	0.19	-0.11	0.01	0.05	-0.02	-0.06	0.09	0.03	-0.12	-0.03	-0.02	-0.03	0.08	0.02	0.04	-0.07	-0.08

Second stage variables	N	Mean	SD	Pair-wise correlation								
				1	2	3	4	5	6	7	8	9
1 Strategic flexibility	107	0.56	0.50									
2 Innovative culture	107	3.46	1.04	0.34								
3 Factor 1: Delegation	107	0.05	1.05	0.16	-0.14							
4 Factor 2: Consolidation	107	0.03	0.98	0.07	0.02	-0.07						
5 Factor 3: Reconfiguration	107	0.07	0.99	-0.15	0.02	-0.03	0.00					
6 Inter-organizational dependence	107	3.50	1.15	-0.04	0.20	0.12	-0.34	-0.16				
7 Technology integration needs	107	4.21	0.80	0.18	0.06	0.11	-0.06	-0.01	0.12			
8 CEO responsible for innovation	107	0.45	0.50	-0.07	0.05	-0.28	0.00	-0.13	-0.02	0.00		
9 Survey source	107	0.12	0.33	0.16	0.14	0.14	0.08	0.06	0.01	-0.20	-0.28	
10 Latent marker variable	107	0.00	0.63	0.11	0.34	-0.10	0.12	0.03	0.13	-0.13	-0.03	0.37

TABLE 3: TWO STAGE HECKMAN PROBIT MODEL

	Variables	Model 1: Selection model	Model 2: Two-stage	Model 3: Hypotheses	Model 4: Marker variable
Organizations' engagement in BMI (0/1)	Constant	-0.94 †	-1.00 †	-0.95 *	-0.94 *
		(0.50)	(0.58)	(0.47)	(0.47)
	Survey source	-0.47 **	-0.47 **	-0.48 **	-0.48 **
		(0.18)	(0.18)	(0.18)	(0.18)
	Distribution sector	-0.06	-0.06	-0.10	-0.10
		(0.17)	(0.17)	(0.16)	(0.16)
	Financial services sector	0.01	0.00	-0.03	-0.03
		(0.20)	(0.19)	(0.19)	(0.19)
	Communications sector	-0.15	-0.13	-0.12	-0.12
		(0.22)	(0.25)	(0.21)	(0.21)
	External forces				
	Market forces	0.23	0.24	0.22	0.22
		(0.16)	(0.17)	(0.15)	(0.15)
	Globalization	0.34 *	0.36 †	0.39 **	0.38 **
		(0.16)	(0.21)	(0.15)	(0.15)
	Macroeconomic forces	0.10	0.13	0.14	0.14
		(0.15)	(0.22)	(0.15)	(0.15)
	Geopolitical issues	0.40 †	0.43	0.50 *	0.51 *
		(0.24)	(0.28)	(0.23)	(0.23)
	Environmental issues	0.40 *	0.41 *	0.38 *	0.38 *
		(0.19)	(0.19)	(0.19)	(0.19)
	Organizational attributes				
	Organization size (employees)	0.05	0.05	0.06	0.06
		(0.04)	(0.04)	(0.04)	(0.04)
	Global firm	-0.37 *	-0.36 *	-0.34 *	-0.34 *
		(0.16)	(0.18)	(0.16)	(0.16)
	EU firm	-0.37 **	-0.36 *	-0.32 *	-0.33 *
		(0.15)	(0.16)	(0.15)	(0.15)
	Degree of change difficulty	0.12 †	0.12 †	0.12 †	0.12 †
		(0.07)	(0.07)	(0.06)	(0.07)
	CEO responsible for innovation	0.36 **	0.37 **	0.36 **	0.36 **
		(0.14)	(0.14)	(0.14)	(0.14)
	Prior success with change effort	-0.05	-0.05	-0.05	-0.05
		(0.07)	(0.08)	(0.07)	(0.07)
	Product / Market innovator	-0.90 **	-0.90 **	-0.94 ***	-0.94 ***
		(0.31)	(0.31)	(0.30)	(0.30)
Strategic flexibility (0/1)	Innovative culture			0.50 ***	0.49 ***
				(0.15)	(0.00)
	Internal structural changes				
	Delegation			0.30 *	0.31 *
				(0.12)	(0.00)
	Consolidation			0.00	-0.01
				(0.12)	(0.00)
	Reconfiguration			-0.25 *	-0.25 *
				(0.12)	(0.00)
	Inter-organizational dependence			-0.23 *	-0.24 *
				(0.11)	(0.00)
	Technology integration needs		0.35 †	0.27	0.27
			(0.18)	(0.18)	(0.00)
	CEO responsible for innovation		-0.10	-0.27	-0.27
			(0.35)	(0.23)	(0.00)
	Survey source		0.90 †	0.67	0.64
			(0.48)	(0.41)	(0.00)
	Latent marker variable				(0.05)
					(0.00)
	Constant		-1.07	-0.92	-0.89
			(1.83)	(1.15)	(0.00)
	N	556	556	556	556
	N - second stage		107	107	107
	Chi-square	50.23 ***	7.93 *	22.26 **	22.69 **